

RUBELLA CASE AND OUTBREAK 'QUICKSHEET'

California Department of Health and Human Services – December 2004

Infectious agent: The rubella virus is a togavirus, genus *Rubivirus*.

Mode of transmission: Rubella is transmitted by contact with nasopharyngeal droplets from infected persons or by direct contact with infected persons or articles freshly contaminated with nasopharyngeal secretions, feces or urine. Infants with congenital rubella (CRS) shed large quantities of virus from body secretions for many months.

Communicability: Rubella is not as infectious as measles, but is still highly communicable.

Susceptibility: Persons born in 1957 or after, who have not received ≥ 1 dose of rubella containing vaccine on or after the first birthday, or laboratory evidence of rubella immunity, are considered to be susceptible.

Period of Communicability: The infectious period is considered to be from 7 days before onset of rash to 7 days after onset of rash. 30-50% of cases may be subclinical or inapparent. Infants with CRS should be presumed infectious at least through the first year of life unless nasopharyngeal and urine cultures are negative for virus after age 3 months.

Exposure: Exposure is defined as face-to-face with an infectious case.

Incubation period: The incubation period is variable and may range from 14 to 21 days; most persons have the rash 14-17 days after exposure.

CDC CASE DEFINITION and CLASSIFICATION (for purposes of public health reporting)

Clinical Case Definition: Acute onset of generalized maculopapular rash; AND a temperature $> 99.0^{\circ}\text{F}$ (37.2°C), if measured AND arthralgia/arthritis, lymphadenopathy, OR conjunctivitis.

Case Classification

Suspected: any generalized rash illness of acute onset

Probable: a case that meets the clinical case definition, has no or noncontributory serologic or virologic testing, and is not epidemiologically linked to a confirmed case.

Confirmed: a case that is laboratory confirmed or that meets the clinical case definition and is epidemiologically linked to a laboratory-confirmed case.

CLINICAL FEATURES

30- 50% of rubella cases are subclinical or inapparent because symptoms of the disease can be mild.

Prodrome: In older children and adults, occurs 1-5 days before onset of rash. Symptoms are often mild, including low grade fever, malaise, swollen glands and upper respiratory infection symptoms.

Rash: Initially occurs on the face and progresses from head to feet, being less evident on extremities than on face and trunk. Fainter than measles rash, usually does not coalesce and is occasionally itchy. Lasts about 3 days.

Arthralgias (achy joints) occur at the same time or shortly after rash. Occurs in 70% of adult women but rarely in adult males or children.

LABORATORY TESTING AND CONFIRMATION

- Positive serologic test for rubella IgM antibody in serum collected 2-14 days after rash onset*
- Significant rise in measles IgG in paired acute and convalescent sera drawn two weeks apart
- Isolation of rubella virus from an urine or nasopharyngeal specimen collected within 14 days of rash onset (maximal shedding is up to day 4 after rash onset).
- *Note: Serum rubella IgM test results that are false positives have been reported in persons with other viral infections (e.g., infection with acute Epstein-Barr virus [infectious mononucleosis], recent cytomegalovirus infection, and parvovirus infection) or in the presence of rheumatoid factor.

RECOMMENDED TREATMENT AND CHEMOPROPHYLAXIS

Treatment of rubella is supportive. Neither rubella vaccine nor Immune Globulin is effective for postexposure prophylaxis. Postexposure vaccination of susceptible persons is recommended unless otherwise contradicted, because if exposure to rubella does not cause infection, post exposure vaccination should induce protection against subsequent infection.

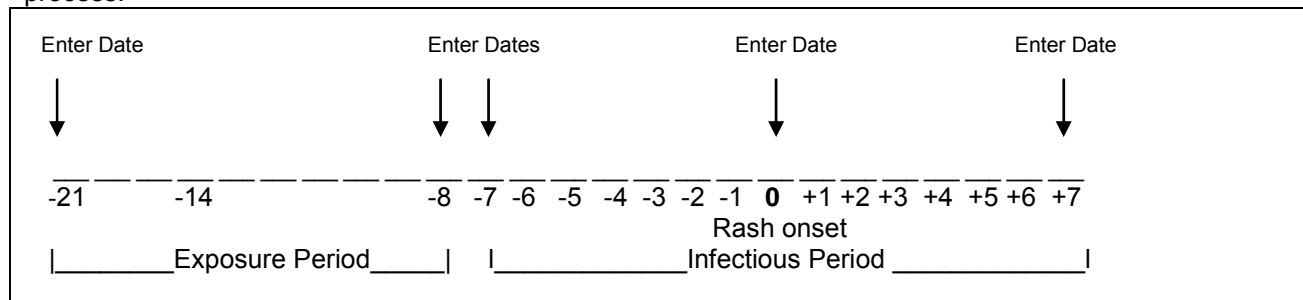
REPORTING AND NOTIFICATION

- Both confirmed and probable rubella cases must be reported to DHS.

STEPS FOR RUBELLA CASE INVESTIGATION

1. Confirm clinical signs and symptoms (at a minimum: rash onset, fever, arthralgia/arthritis, lymphadenopathy or conjunctivitis) and verify that suspected case could be susceptible to rubella (check vaccination and disease history). Try to determine if suspected case was in contact with a person with rubella or congenital rubella syndrome.
2. Ensure that case is isolated until 5-7 days after rash onset.
3. Arrange for serological testing of suspected case.
4. Identify susceptible contacts.
 - Identify all household contacts and determine those who do not have rubella immunity.
 - Identify all other contacts who had face-to-face or room contact with the case (when the case was not masked) and determine those who do not have rubella immunity.
5. Refer susceptible pregnant women to their prenatal care provider.
6. Refer susceptible contacts for vaccination. Post-exposure vaccination will not prevent or alter the clinical severity of rubella. However, if exposure to rubella does not cause infection, vaccination should induce protection against subsequent infection.
 - If case occurs in a school/daycare center, a notification letter should be sent to parents. Non-vaccinated children should be excluded from school until they can provide proof of immunity or until 3 weeks after onset of rash in the last reported case in the outbreak setting.
 - If case occurs in a healthcare setting, exposed personnel who do not have documented immunity to rubella should be removed from all patient contact and excluded from duty from the 7th day after first exposure until the 21st day after the last exposure. Exposed susceptible patients should be discharged if possible.
7. Local health departments should recommend that rubella cases and susceptible contacts restrict contact with pregnant women and persons without adequate proof of rubella immunity for 5-7 days after rash onset (cases) or from 7 days after the first exposure to 23 days after the last exposure (contacts).
8. Determine the possible source of exposure of case (within three weeks prior to rash onset)

The following time line depicts the clinical course of rubella and may be useful in the investigation process:



EXPOSURE DURING PREGNANCY AND CONGENITAL RUBELLA SYNDROME

The most important consequences of rubella result from rubella infection which occurs during early pregnancy, especially during the first trimester. Rubella infection can affect all organs in the developing fetus and cause miscarriage, fetal death, and congenital anomalies. Up to 90% of infants born to mothers infected during the first 11 weeks of gestation will develop congenital rubella syndrome (CRS); the rate of CRS for infants born to women infected between 12 and 20 weeks of pregnancy is much less; and infection after the twentieth week of gestation rarely causes defects.